

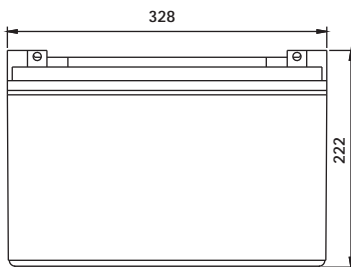
12V - 100Ah

NP 12V 100Ah is a general purpose VRLA battery with 10 years floating design life, meet with IEC 60896-21, 60896-22, JIS standard. With heavy duty grid, thickness plates, special additives, NP series have long and reliable stand by service life. The battery keeps high consistent for better performance in series usage.

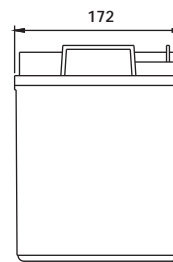
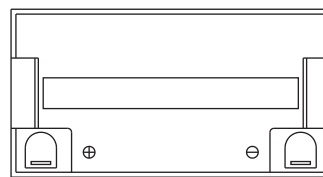


| Physical Characteristics | | Technical Characteristics | |
|--------------------------|---|-------------------------------------|--------------------------------------|
| Nominal Voltage | 12V | Internal Resistance | Fully charged battery (25C) 5 mΩ |
| Nominal Capacity (20HR) | 100Ah @10hr rate to 1,80V per cell @25C | Recommended Charging Current at 20C | 30 A |
| Dimension LxWxH | 328x172x222 +/-1mm | Float charging Voltage | 13,6 to 13,8 VDC/unit Average at 25C |
| Weight | Approx 30,0 kg | Equalization and Cycle Service | 14,6 to 14,8 VDC/unit Average at 25C |
| Standard Terminal | T11 | Max Discharge Current | 1000A (5sec) |

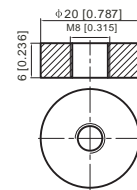
Dimensions



Unit: mm



Terminal T11



Container Material : A.B.S. UL94-HB

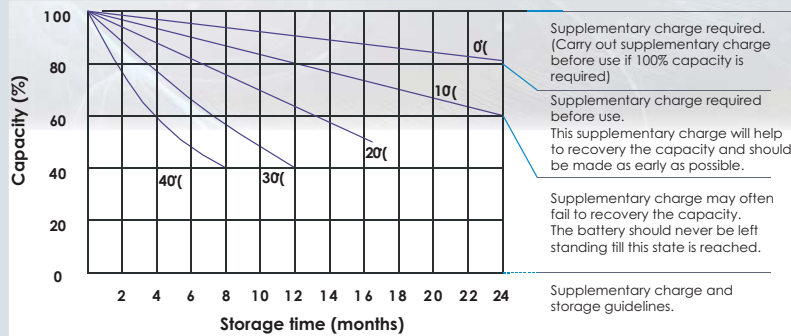
Constant Current & Power Discharge Characteristics: A (25C) / W (25C)

| Final Voltage | Time | 5min | 10min | 15min | 30min | 1Hr | 2Hr | 3Hr | 4Hr | 5Hr | 8Hr | 10Hr | 20Hr |
|---------------|----------|--------------|----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | 1.60V | A | 320.7 | 226.9 | 181.4 | 112.7 | 65.00 | 38.89 | 26.88 | 22.03 | 18.03 | 12.42 |
| 25C | W | 3317 | 2416 | 1996 | 1284 | 751.1 | 458.4 | 319.9 | 262.6 | 215.1 | 148.3 | 125.5 | 69.26 |
| 1.65V | A | 311.4 | 215.8 | 177.7 | 110.8 | 64.70 | 38.60 | 26.78 | 21.93 | 17.93 | 12.32 | 10.40 | 5.672 |
| 25C | W | 3251 | 2342 | 1964 | 1269 | 749.3 | 456.0 | 320.0 | 262.3 | 214.6 | 147.6 | 124.7 | 68.06 |
| 1.7V | A | 302.2 | 208.2 | 174.9 | 109.8 | 64.10 | 38.31 | 26.57 | 21.83 | 17.82 | 12.22 | 10.30 | 5.567 |
| 25C | W | 3214 | 2280 | 1941 | 1260 | 743.5 | 453.3 | 318.6 | 261.7 | 213.9 | 146.6 | 123.6 | 66.80 |
| 1.75V | A | 271.3 | 192.1 | 166.5 | 107.1 | 63.50 | 38.02 | 26.47 | 21.62 | 17.61 | 12.12 | 10.20 | 5.462 |
| 25C | W | 2926 | 2123 | 1852 | 1230 | 736.8 | 450.0 | 317.4 | 259.3 | 211.3 | 145.4 | 122.4 | 65.54 |
| 1.8V | A | 244.9 | 175.2 | 153.5 | 102.4 | 62.00 | 37.33 | 25.75 | 21.11 | 17.29 | 11.92 | 10.10 | 5.357 |
| 25C | W | 2665 | 1957 | 1712 | 1179 | 723.2 | 444.2 | 308.7 | 253.4 | 207.5 | 143.0 | 121.2 | 64.28 |
| 1.85V | A | 209.1 | 156.6 | 137.7 | 95.91 | 58.90 | 35.68 | 24.62 | 20.09 | 16.55 | 11.41 | 9.796 | 5.041 |
| 25C | W | 2341 | 1770 | 1541 | 1108 | 692.3 | 427.7 | 295.4 | 241.1 | 198.6 | 136.9 | 117.6 | 60.50 |

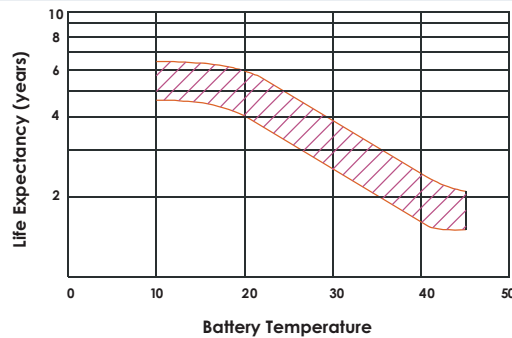
Capacity factors with different temperature

| BATTERY TYPE | | -20C | -10C | 0C | 5C | 10C | 20C | 25C | 30C | 40C | 45C |
|----------------|--------|------|------|-----|-----|-----|-----|------|------|------|------|
| GEL BATTERY | 6V&12V | 50% | 70% | 83% | 85% | 90% | 98% | 100% | 102% | 104% | 105% |
| | 2V | 60% | 75% | 85% | 88% | 92% | 99% | 100% | 103% | 105% | 106% |
| AGM BATTERY | 6V&12V | 46% | 66% | 76% | 83% | 90% | 98% | 100% | 103% | 107% | 109% |
| | 2V | 55% | 70% | 80% | 85% | 92% | 99% | 100% | 104% | 108% | 110% |

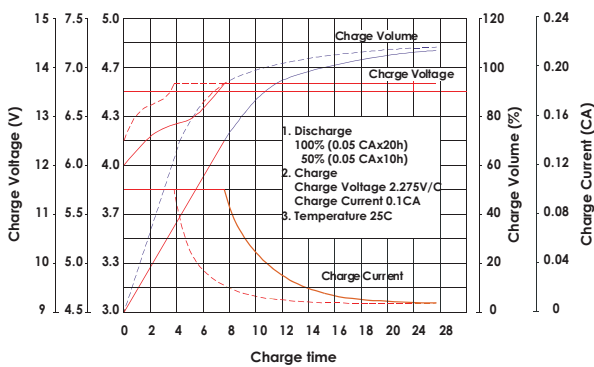
Storage characteristic



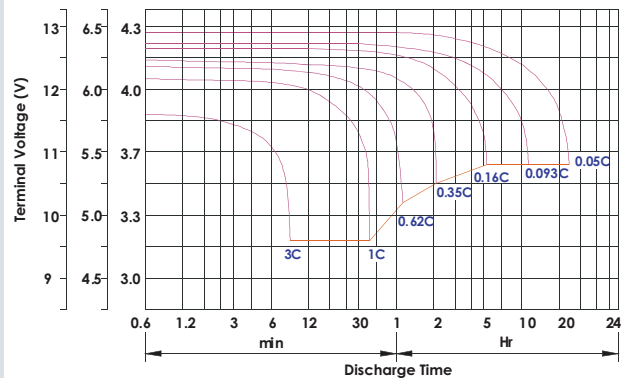
Effect of temperature on long term float life



Charge characteristic Curve for standby use



Discharge characteristic curve



Discharge Current VS. Discharge Voltage

| | | | |
|--------------------------------|------------|-------------------|------------|
| Final Discharge Voltage V/cell | 1,75V | 1,70V | 1,60V |
| Discharge Current (A) | (A) ≤ 0.2C | 0.2C < (A) < 1.0C | (A) ≥ 1.0C |

Charge the batteries at least once every six months, if they are stored at 25C
Charging Method:

| | |
|------------------|--|
| Constant Voltage | -0.2Cx2h=2.4~2.45V/Cellx24h, Max.Current 0.3CA |
| Constant Current | -0.2Cx2h+0.1CAx12h |
| Fast | -0.2Cx2h+0.3CAx4.0h |

Maintenance & Cautions

Float Service:

- * Every month, recommend inspection every battery voltage
- * Every three months, recommend equalization charge for one time.
- Equalization charge method:
Discharge: 100% rate capacity discharge
Charge: Max. current 0.3CA, constant voltage 2,4-2,45V/Cell charge 24h
- * Effect of temperature on float charge voltage: -3mV/C/Cell
- * Length of service life will be directly affected by the number of discharge cycles, depth of discharge, ambient temperature and charging voltage.